

## ABSTRACT

An optical sensor for the monitoring of combustion processes in a combustion chamber comprises a lens system facing the combustion chamber, a waveguide and a sheath surrounding the lens system. The lens system has at least one essentially plano-concave lens and a double concave lens wherein the planar surface of the plano-concave lens is exposed to the combustion chamber. A method for centering one or more lenses and a waveguide in a sheath of an optical sensor for monitoring combustion processes in a combustion chamber is also disclosed that includes filling the gap between the first lens and the sheath with a soldering paste.